IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellant:	Patrick C. Lilley	Examiner:	William H. Wood
Serial No.:	10/646,975	Group Art Unit:	2193
Filed:	August 22, 2003	Docket No.:	200701939-2
Title:	UPDATE PACKAGE GENERATOR EMPLOYING PARTIAL PREDICTIVE MAPPING TECHNIQUES FOR GENERATING UPDATE PACKAGES FOR MOBILE HANDSETS		

APPEAL BRIEF UNDER 37 C.F.R. §41.37

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This Appeal Brief is submitted in support of the Notice of Appeal filed on October 14, 2008, appealing the final rejection of claims 1, 3, and 5-22 of the above-identified application as set forth in the Final Office Action mailed April 16, 2008.

The U.S. Patent and Trademark Office is hereby authorized to charge Deposit Account No. 08-2025 in the amount of $540.00 for filing a Brief in Support of an Appeal as set forth under 37 C.F.R. §41.20(b)(2). At any time during the pendency of this application, please charge any required fees or credit any overpayment to Deposit Account No. 08-2025.

Appellant respectfully requests consideration and reversal of the Examiner's rejection of pending claims 1, 3, and 5-22.

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REAL PARTY IN INTEREST

The real party in interest is Hewlett-Packard Development Company, LP having a principal place of business at 20555 S.H. 249 Houston, TX 77070, U.S.A. (hereinafter "HPDC"). HPDC is a Texas limited partnership and is a wholly-owned affiliate of Hewlett-Packard Company, a Delaware corporation, headquartered in Palo Alto, CA. The general or managing partner of HPDC is HPQ Holdings, LLC.

RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to Appellant that will have a bearing on the Board's decision in the present Appeal.

STATUS OF CLAIMS

In a Final Office Action mailed April 16, 2008, claims 1, 3, and 5-22 were finally rejected. Claims 2 and 4 have been cancelled. Claims 1, 3, and 5-22 are pending in the application. Claims 1, 3, and 5-22 are the subject of the present Appeal.

STATUS OF AMENDMENTS

No amendments have been entered subsequent to the Final Office Action mailed April 16, 2008.

SUMMARY OF THE CLAIMED SUBJECT MATTER

The Summary is set forth as exemplary embodiments as the language corresponding to independent claims 1 and 15. Discussions about elements of claims 1 and 15 can be found at least at the cited locations in the specification and drawings.

One embodiment of the present invention, as claimed in independent claim 1, provides a mobile services network (105) comprising a mobile electronic device (107), a management server (109), an update package repository (133), and a generator (145) for generating an update package used in updating firmware (115) in the mobile electronic device from a first version (Version 1) to a second version (Version 2). The update package comprising encoded difference information and a shift region list that identifies at least one

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region of the first version of firmware and an associated offset. The first version is modified to correspond with the shift region list in the update package. The encoded difference information is generated to comprise the differences between the second version and the modified first version. *See specification at paragraphs [18]-[38] and Figures 1-4.*

One embodiment of the present invention, as claimed in independent claim 15, provides a method for generating an update package using a first version (Version 1) and a second version (Version 2) of firmware (115) in a mobile services network (105). The method comprises creating a module map identifying one or more modules (modules 1-5) in the first version of firmware and corresponding modules (modules 1-5) in the second version of firmware, wherein each module comprises a region of firmware. The method comprises creating a shift region list that identifies at least one region of the first version of firmware and an associated address adjustment. The method comprises generating encoded difference information that comprises differences between the first version that is modified to correspond to the shift region list and the second version. The method comprises generating an update package using the encoded difference information and the shift region list. *See specification at paragraphs [18]-[38] and Figures 1-4.*

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

I.   Claims 1, 3, and 5-22 stand rejected under 35 U.S.C. §102(e) as being anticipated by the O'Neill U.S. Patent No. 6,832,373.

ARGUMENT

I.   The Applicable Law

To anticipate a claim under 35 U.S.C. 102, a reference must teach every limitation of the claim. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 [2 USPQ2d 1051, 1053] (Fed. Cir. 1987) ("A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference"). *See also Atlas Power Co. v. IRECO Inc.*, 190 F.3d 1342, 1347 [51 USPQ2d 1943, 1946] (Fed. Cir. 1999).

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II. Rejection of Claims 1, 3, and 5-22 under 35 U.S.C. §102(e) as being anticipated by the O'Neill U.S. Patent No. 6,832,373

Independent claim 1 includes a mobile services network comprising a generator for generating an updated package used in updating firmware in the mobile electronic device from a first version to a second version. The update package includes encoded difference information and a shift region list that identifies at least one region of the first version of firmware and associated offset. The first version is modified to correspond with the shift region list in the update package. The encoded difference information is generated to comprise the difference between the second version and the modified version. The O'Neill Patent does not teach or suggest all of these limitations of independent claim 1.

Specifically, the O'Neill Patent does not teach or suggest **a shift region list that identifies at least one region of the first version of firmware and an associated offset** as recited in independent claim 1. Furthermore, the O'Neill Patent does not teach or suggest **wherein the first version is modified to correspond with the shift region list in the update package** as recited in independent claim 1. Moreover, the O'Neill Patent does not teach or suggest **the encoded difference information is generated to comprise the differences between the second version and the modified first version** as recited in independent claim 1.

The Examiner in the Final Office Action mailed April 16, 2008 states that the O'Neill Patent at column 3, line 63 to column 4, line 25 discloses an update package comprising encoded difference information and a shift region list that identifies at least one region of the first version of firmware and an associated offset. The O'Neill Patent at column 3, line 63 to column 4, line 25 actually states:

> In one embodiment the invention comprises a system for updating a plurality of distributed electronic devices with an updated operating code comprising a first plurality of digital information sequences wherein each of the plurality of electronic devices include a resident operating code comprising a second plurality of digital information sequences that are stored within the electronic device. The system further comprises <u>an update generator that compares an image of the first plurality of digital information sequences comprising the updated operating code to an image of the second plurality of digital information sequences comprising the resident operating code and identifies differences between of the updated operating code and the</u>

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<u>resident operating code</u> and thereafter generates an update package comprising an instruction set which specifies how to generate the updated operating code utilizing at least a portion of the second plurality of digital information sequences of the resident operating code. The system further comprises a distribution system that distributes the update package to the electronic devices such that the update package is received by the electronic devices and stored therein. The system further comprises a plurality of client modules that are respectively resident on each of the plurality of electronic devices, wherein the plurality of client modules access the distribution system and receive the update package and wherein the instruction set of the update package is executed by the client modules so as to generate the updated operating code by utilizing a least a portion of the second plurality of digital information sequences from the resident operating code.

According to this passage, the O'Neill Patent discloses an image of the first plurality of digital information sequences comprising the updated operating code. The O'Neill Patent also discloses a second plurality of digital information sequences comprising the resident operating code. The O'Neill Patent further discloses to <u>identify differences between the updated operating code and the resident operating code</u> and thereafter generate an update package comprising <u>an instruction set which specifies how to generate the updated operating code utilizing at least a portion of the second plurality of digital information sequences of the resident operating code</u>. As such, the O'Neill Patent discloses identifying differences between a resident operating code and the updated operating code. Therefore, the O'Neill Patent does not teach or suggest modification of the first version of firmware to correspond with a shift region list, and further does not teach or suggest generating encoded difference information comprising the differences between a second version and the **modified first version** as recited in independent claim 1.

The Examiner, in the Final Office Action mailed April 16, 2008, stated that shift region and offset correspond to the O'Neill Patent's use of and instructions for how to use existing code, second plurality of digital information sequences of the resident code. Appellant respectfully submits, however, that the disclosure in the O'Neill Patent related to use of and instructions for how to use existing code does not provide sufficient detail or description to disclose a shift region list let alone a shift region list, that identifies at least one region of the first version of firmware and associated offset, as recited in independent claim 1. Therefore, the above cited portion of the O'Neill Patent does not teach or suggest a shift

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region list that identifies at least one region of the first version of firmware and associated offset as recited in independent claim 1.

Independent claim 1 also requires that the first version is modified to correspond with the shift region list in the update package. For the reasons provided above, the O'Neill Patent does not teach or suggest a shift region list, thus, the O'Neill Patent cannot teach or suggest wherein the first version is modified to correspond with the shift region list as required by independent claim 1.

Independent claim 1 recites a generator for generating an update package used to update firmware from a first version to a second version, wherein the first version is modified to correspond with the shift region list, and the update package comprises difference information between the second version and the **modified first version**. According to this limitation, independent claim 1 defines three different versions of the firmware including a first version from which it is updated, a modified first version, and a second version to which it is updated. The difference information defined in claim 1 is difference information "between the second version and the **modified first version**." By contrast, the O'Neill Patent does not disclose a modified first version, let alone difference information between the modified first version and a second version as required by the limitations of independent claim 1.

In the Final Office Action mailed April 16, 2008, as noted above, the Examiner cited the O'Neill Patent at column 3, line 63-column 4, line 25 for disclosing wherein the first version is modified to correspond with the shift region list in the update package, and the encoded difference information is generated to comprise the differences between the second version and the modified first version. In the Final Office Action mailed April 16, 2008, the Examiner specifically states that "encoded difference information corresponds to new information that must be added or removed from the original, ' a first plurality of digital information sequences' from the updated operating code." Appellant respectfully submits that the disclosure of the O'Neill Patent even if interpreted according to this quotation of the Final Office Action mailed April 16, 2008, does not teach or suggest the difference information as defined in independent claim 1. In contrast to the above quotation of the Examiner in the Final Office Action, the difference information defined in independent claim

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1 is not between the original and updated version. Instead, independent claim 1 recites that "the encoded difference information is generated to comprise the differences **between the second version and the <u>modified</u> first version**."

An example of the O'Neill Patent which illustrates this distinction between the O'Neill disclosure and the above limitations of independent claim 1 is provided at column 4, lines 6-13 which states that its update generator identifies <u>differences between the updated operating code and the resident operating code</u> and thereafter generates an update package comprising an instruction set which specifies how to generate the updated operating code utilizing at least a portion of the second plurality of digital information sequences of the resident operating code. As such, the O'Neill Patent identifies differences between the updated operating code and the resident operating code and not differences between updated operating code and a modified first version as required by the limitations of independent claim 1. The O'Neill Patent does not disclose a first version modified to correspond with a shift region list, let alone encoded difference information generated to comprise the differences between the second version and the modified first version as recited in independent claim 1.

The Examiner further states in the Final Office Action mailed April 16, 2008 that the further difference information is found at column 21, lines 25-40 of the O'Neill Patent. The O'Neill Patent at column 21, lines 25-40 specifically states:

> A threshold of efficiency is used to insure that the identified "best result" is at least as efficient or more efficient than a default instruction function comprising incorporating the literal string directly into the update package 110. If the identified best result function is more efficient than the default instruction then the instruction coding for the information sequence coded by the comparison function is incorporated into the update package 110 and the pointer is updated to the first section of information immediately following the code translated by the comparison function in a state 412. Otherwise, if the default instruction is determined to be more efficient than the "best result" function, then the default instruction is included in the update package 110 in state 414 and the pointer updated in a similar manner in state 412.

As remarked above, Appellant respectfully submits that nothing in the above cited portion of the O'Neill Patent teaches or suggests a first version modified to correspond with a

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shift region list, let alone encoded difference information generated to comprise the differences between the second version and the modified version. Accordingly, the O'Neill et al. Patent does not teach or suggest the limitations of independent claim 1 defining that the encoded difference information is generated to comprise the differences between the second version and the modified first version.

Independent claim 15 recites a method comprising creating a shift region list that identifies at least one region of the first version of firmware and an associated address adjustment and generating encoded difference information that comprises differences between the first version that is modified to correspond to the shift region list and the second version. Thus, Appellant respectfully submits that independent claim 15 is allowable for at least the reasons provided above for the allowability of independent claim 1.

Dependent claims 3, 5-14 further define patentably distinct independent claim 1. Dependent claims 16-22 further define patentably distinct independent claim 15. Therefore, these dependent claims are also believed to be allowable.

Therefore, Appellant respectfully requests reversal of the 35 U.S.C. § 102(e) rejection to the claims and requests allowance of claims 1, 3, and 5-22.

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CONCLUSION

For the above reasons, Appellants respectfully submit that the cited references neither anticipate nor render obvious claims of the pending Application. The pending claims distinguish over the cited references, and therefore, Appellants respectfully submit that the rejections must be withdrawn, and respectfully request the Examiner be reversed and claims 1, 3, and 5-22 be allowed.

Any inquiry regarding this Response should be directed to either Patrick G. Billig at Telephone No. (612) 573-2003, Facsimile No. (612) 573-2005 or Clare Hartnett at Telephone No. (408)447-0289, Facsimile No. (408) 447-0854. In addition, all correspondence should continue to be directed to the following address:

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Respectfully submitted,

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By his attorneys,

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Dated: __January 14, 2009__
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CLAIMS APPENDIX

1.   (Previously Presented) A mobile services network comprising:

a mobile electronic device;

a management server;

an update package repository; and

a generator for generating an update package used in updating firmware in the mobile electronic device from a first version to a second version, the update package comprising encoded difference information and a shift region list that identifies at least one region of the first version of firmware and an associated offset, wherein the first version is modified to correspond with the shift region list in the update package, and the encoded difference information is generated to comprise the differences between the second version and the modified first version.

2.   (Cancelled)

3.   (Original) The network according to claim 2 wherein the update packages are populated into the update package repository.

4.   (Cancelled)

5.   (Original) The network according to claim 1 wherein the management server and the update package repository are communicatively coupled.

6.   (Previously presented) The network according to claim 1 wherein the generator and the update package repository are communicatively coupled.

7.   (Previously presented) The network according to claim 1 wherein the generator is located at a location remote from the update package repository.

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8.   (Original) The network according to claim 1 wherein the mobile electronic device comprises:

        a non-volatile memory;

        a random access memory; and

        security services.

9.   (Original) The network according to claim 8 wherein the non-volatile memory comprises:

        an update agent;

        a firmware and real-time operating system;

        a download agent; and

        a boot initialization.

10.   (Original) The network according to claim 9 wherein the non-volatile memory further comprises an operating system layer.

11.   (Original) The network according to claim 9 wherein the non-volatile memory further comprises an end-user-related data and content unit.

12.   (Original) The network according to claim 9 wherein the mobile electronic device performs the following:

        downloading an update package from the update package repository;

        rebooting;

        executing the boot initialization;

        determining whether an update process is needed; and

        invoking the update agent.

13.   (Original) The network according to claim 12 wherein the mobile electronic device determines the need for an update process based on status information.

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14.   (Original) The network according to claim 12 wherein the mobile electronic device invokes the update agent to execute the update process if it is determined an update process is needed.

15.   (Previously Presented) A method for generating an update package using a first version and a second version of firmware in a mobile services network, the method comprising:

creating a module map identifying one or more modules in the first version of firmware and corresponding modules in the second version of firmware, wherein each module comprises a region of firmware;

creating a shift region list that identifies at least one region of the first version of firmware and an associated address adjustment;

generating encoded difference information that comprises differences between the first version that is modified to correspond to the shift region list and the second version; and

generating an update package using the encoded difference information and the shift region list.

16.   (Previously presented) The method according to claim 15 wherein the module map comprises module locations and sizes in the first version of firmware and the second version of firmware.

17.   (Original) The method according to claim 15 wherein creating the shift region list comprises:

identifying shift points within each module of the firmware, wherein the shift points define shift regions;

creating a first shift region list;

modifying a first shift region list to include external shifts; and

creating a second shift region list.

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18.   (Original) The method according to claim 17 wherein the method further comprises consolidating adjacent shift regions having identical address adjustments.

19.   (Previously presented) The method according to claim 17 wherein the first shift region list comprises:

       shift regions corresponding to modules in the first version of firmware;

       sizes of the shift regions; and

       address adjustment values corresponding to the difference between a start location of a module in the first version of firmware and the start location of the same module in the second version of firmware.

20.   (Previously presented) The method according to claim 19 wherein modifying the first shift region list comprises:

       finding modules that changed size from the first version of firmware to the second version of firmware;

       adjusting address-based instructions in the first version of firmware using the address adjustment value of the changed modules;

       identifying areas where new content was inserted into a module;

       defining the identified areas of new content as new shift regions;

       deleting the changed modules from the first shift list; and

       inserting the defined shift regions into the first shift list.

21.   (Previously presented) The method according to claim 18 wherein adjacent shift regions are consolidated if modules remain unchanged in the from the second version.

22.   (Original) The method according to claim 18 wherein the second shift region list is the result of consolidating shift regions in the modified first shift region list.

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EVIDENCE APPENDIX

None.

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RELATED PROCEEDINGS APPENDIX

None.